Developing Standards for NASA Web Sites

Jayne Dutra

Co-Chair, NASA Webmasters Group

Chair, JPL Web Developers

October 18, 2000

Background:
Best Practices at NASA

NASA instituted web standards to

■ Fulfill its mission of sharing scientific knowledge with the public

■ Ensure consistency and reliability in its web sites

■ Develop a branding strategy that makes its sites identifiable as NASA sites

■ Help web developers efficiently design and maintain sites, given limited resources

NASA WWW Audiences

NASA has five main audiences:

∎ The general public and mass media

∎ Research communities including industry, technical and scientific

∎ Academia including teachers, administrators and students

∎ Government groups such as Congress and other federal agencies

∎ Internal audiences including Centers or projects

Considerations for Planning a Site

- Identify your audience and how this audience will use the site
- Identify your organization's goals and objectives for the site
- Design for future growth
- Identify possible constraints:
    - What will it cost to build and maintain?
    - Who will maintain it?
    - Who needs to be part of the planning?

Structuring Your Site

- Inventory your content and categorize for intuitive access

- Design an information architecture that fits the material
  - Global navigation scheme that is consistent

- Good navigation results in good usability
  - A typical user will leave your site in 20 - 30 seconds if they can't figure it out.

Site Navigation: The Basics

- A well designed site simplifies the task of locating information

- Navigation Guidelines:
  - Navigation should be easily learned
  - Navigation should remain consistent
  - Navigation should provide visual context
  - Minimize reliance on browser navigational buttons
  - Provide clear visual messages and labels

Site Navigation: Other Techniques

- **Provide a search mechanism for your site's contents**
  - Use a search engine for users who are looking for specific information
  - Re-index whenever new content is added

- **Include a site map or topical site index**
  - This helps users create a mental construct of the site

- **Give your users options**

Follow Online Writing Standards

- Write for the web, not for print

- Structure content for online readability
  - Users tend to scan on the web, not read

- Chunk information, determine main and subtopics
  - Use short, declarative sentences or bulleted lists
  - Keep page content down to about one and a half screens
  - Make sections titles short and descriptive
  - Use consistent vocabulary

Design to User Needs

- Know your audience's technical capabilities and build to accommodate these.
- Think about download time
- Test on various browsers and platforms
- Consider—before posting time-sensitive content—who will keep it up-to-date.
- Provide users with an easy way to send feedback to site curators

Moving Towards Dynamic Delivery

- Storing Content in Databases
  - Displays content in template form with consistent headers and footers
  - Allows for quick redesign options
  - Database design needs to be extensible and scalable
  - With some careful thinking up front, can be very efficient and cost effective
  - Eases maintenance chores especially for large sites

Site Maintenance

- Use link and HTML validation software to automate web page maintenance.
- Schedule regular maintenance to check links and page contents for updating and revision.
- Post contact information on every main page to identify web master, recent update, and organizational sponsorship.
- Keep an accurate, up to date outline of your site

Following NASA Policies

- Site Accessibility Compliance
    - NASA developed a checklist for webmasters to ensure compliance with Section 508 accessibility guidelines
    - Use of BOBBY to validate compliance procedures
- Online Privacy Issues
    - Cookie Use
    - COPPA - Children's Online Privacy Protection Act
- Every NASA site has:
    - Responsible NASA Official - for content
    - NASA Curator - webmaster

Marketing Your Site

- **Understanding how search engines work:**
  - They look at titles, content, keywords and descriptions
- **Design your meta tags to maximize your site's "findability"**
- **Tips for Submitting Web Pages to Search Engines**
  - Submit several key "entry point" pages of your site to search engines
  - Submit the Table of Contents or Sitemap
  - Use a listing service to submit to many search engines at once

Tracking Site Traffic

- Some sites require monthly NASA reports that may include these types of statistics:
  - Number of total hits, quantity of data delivered, unique network IP addresses served
- Use log analysis to evaluate your users' site experience
    - Are there places where they commonly leave?
    - Can you identify content that should be pushed up or made more accessible?
    - What traffic patterns are they using to navigate your site? Can you make it easier for them?

The Future of NASA Web Sites

- Web site production today requires a varied skillset:
  - Project managers, site designers, HTML production workers, technical writers, graphic designers, multimedia specialists, programmers, security administrators, and subject matter experts

- New Technologies:
  - Wireless devices, NASA news ticker, content management systems, portal applications

Web Design Resources

- For Usability:

  Designing Web Usability, Jakob Nielsen
- For Information Architecture:

  Information Architecture for the World Wide Web, Louis Rosenfeld and Peter Morville
- For Graphic Design:

  Anything by Lynda Weinman
- *NASA WWW Best Practices Document*

  http://nasa-wbp.larc.nasa.gov/devel/